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Studies on the Crambinae. Part 42
The Crambinae from Sudan collected by R. Remane in 1962

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The present paper contains a short list of the *Crambinae* collected by Dr. R. Remane, Marburg, in Sudan 1962. The material includes one new genus and four new species, two of which were described in Microlepidoptera Palaearctica. The materal comes in major part from Ed Damer: Hudeiba, moreover there are some specimens from Port Sudan. Judging by the material examined, the fauna of Hudeiba is a mixture of Palaearctic and Ethiopian species. *Euchromius cambridgei* (Zeller) and *Ancylolomia inornata* (Stgr.) are species widely spread in the Mediterranean Region. On the other hand *Culladia achroella* (Mabille) is a typical representative of the Ethiopian Region. *Surattha soudanensis* Hampson is a more Ethiopian than Palaearctic species, however, it ranges to Afghanistan through Arabia and Bahrein.

Euchromius subcambridgei Błeszyński

This species was described from two ♂♂ and one ♀ specimens, of which the holotype, ♂, was taken in Hudeiba on 25. V. 1962 and the ♀ paratype in Wad Medani on 2. VIII. 1962. The second ♂ paratype was collected in Tunis: El Gouina. This species is strikingly similar to *E. cambridgei* (Zeller). In *E. subcambridgei* Błeszyński the median

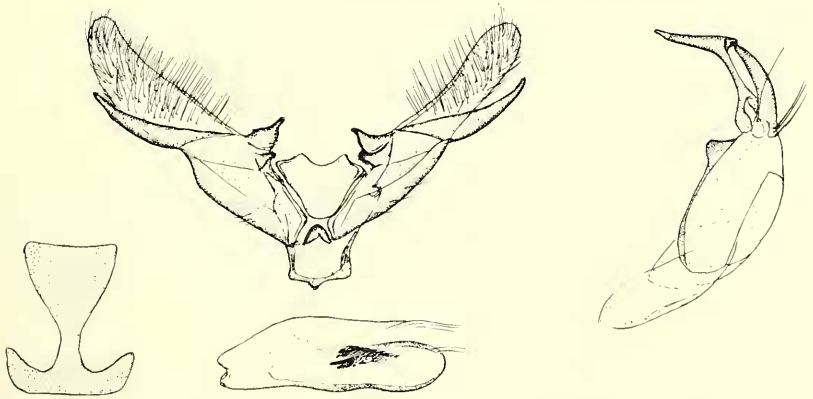

Fig. 1: *Euchromius subcambridgei* Błeszyński, ♂-Genitalia from a paratype. Slide ZSM-♂ 1314. Tunesien, Tunis Umg., El Gouina, 30. IX. 1960.

fascia of the forewing is less angled below the costal margin and is more rounded than in *E. cambridgei* (Zeller). However, *E. cambridgei* (Zeller) is a rather variable species and the right determination is possible only after dissection of the genitalia of any specimen studied. In the male and female genitalia the two species are perfectly distinct, as is shown in the figures. Gnathos in *E. subcambridgei* Błeszyński has the apical portion very long and slender, while in the second species this part is very short and broad. The appendices angulares have very distinct subbasal projections lacking in *E. cambridgei* (Zeller). In the vesica of *E. subcambridgei* Błeszyński there is a distinct, tapering cornutus and a patch of numerous, very thin spikes. The female genitalia of *E. subcambridgei* Błeszyński are characterized by a moderately sclerotized spot in the membrane of the ventral portion of the 8. tergite, then by the evenly cut, broad caudal margin of the ostium pouch and by two rounded signa of the bursa copulatrix. One signum is decidedly larger than the other. In *E. cambridgei* (Zeller) the signa are elongate, sheet-shaped with median distinct ridges, there is no spot of the 8. tergite ventral membrane and the ostium pouch is rounded. Genital slides nos. 1314-ZSM ♂, 1315-ZSM ♂, 1327-ZSM ♀ (fig. 1, 2).

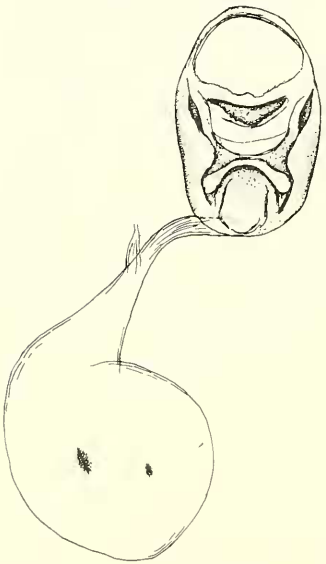

Fig. 2: *Euchromius subcambridgei* Błeszyński, ♀-Genitalia from a paratype. Slide ZSM-♀ 1327. Sudan, Wad Medani, 2. VIII. 1962.

Euchromius cambridgei (Zeller)

12 ♂♀ from Hudeiba taken in II, V and VI. Genital slides nos. ZSM-♂ 1317, ZSM-♀ 1318, ZSM-♂1319, ZSM-♂ 1322, ZSM-♀ 1323, ZSM-♀ 1324, ZSM-♂ 1325. The specimens show some external variation.

Euchromius sudanellus Błeszyński

This species was described from one ♂ (holotype) and one ♀ (paratype) from Port Sudan: Khor Arbaad, taken on 23. VI. Genital slides nos. ZSM-♂ 1308 and ZSM-♀ 1310. Externally very similar to *E. cambridgei* (Zeller), however, the dorsal portion of the median fascia in

the forewing is in *E. sudanellus* Błeszyński decidedly dilated, being not so in the second species. However, because of distinct variation of *E. cambridgei* (Zeller) the right determination should be made after the dissection of the genitalia. In the genitalia of both sexes the two species are perfectely distinct. In *E. sudanellus* Błeszyński the gnathos is very broad and armed with two stripes of minute spikes, which characters do not occur in the second species. Moreover, the aedoeagus in *E. sudanellus* Błeszyński shows two patches of minute spikes, while in *E. cambridgei* (Zeller) there is a single cornutus. In the female genitalia in *E. sudanellus* Błeszyński there is a large, triangular, heavily sclerotized patch in the ventral portion of the 8. tergite. One signum similar as in *E. cambridgei* (Zeller), however, the other very small with no median ridge (fig. 3, 4).

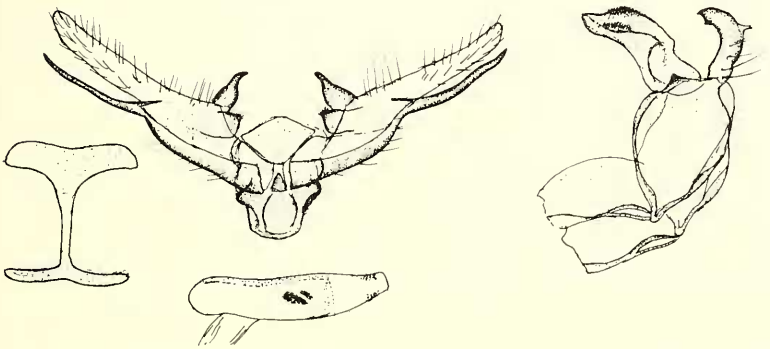

Fig. 3: *Euchromius sudanellus* Błeszyński, ♂-Genitalia from the holotype. Slide ZSM-♂ 1308. Sudan sept.-or., Port Sudan, Khor Arbaad, 23. VI. 1962.

Chilo partellus (Swinhoe)

37 ♂♀ specimens from Hudeiba, taken between 21. XII. and 5. III. The specimens show great variation in size, being typical in colour and maculation.

Leonardo n. gen.

Type species: *Leonardo davincii* n. sp.

Diagnosis: Ocelli moderate. Chaetosemata well developed. Labial palpi rather short. Face not produced forward beyond eye, broadly rounded with no corneous point. Frenulum of ♀ triple. Forewing with distinct subterminal line and traceable median line. No longitudinal stripe. Terminal dots present, normal. In forewing r 1, r 2 and r 5 free, r 3 and r 4 stalked, m 2 free. In hindwing rr long, m 1 from below of upper angle of cell (as in *Prionapteryx*-group), cell closed, m 2 short, stalked. In ♂-genitalia uncus and gnathos rather normal, pons membraneus, appendices angulares narrow, but distinct; valva with pars basalis not differentiated, sacculus with no process, hair short and poor, vinculum rather narrow, a small saccus present, juxta-plate distinct with two arms, pseudosaccus small but distinct. 8. Tergite-plate well developed, long, with arm moderate. 8. Sternite-plate also well visible, with narrow base and narrow central part tapering cephalad. In female genitalia papillae

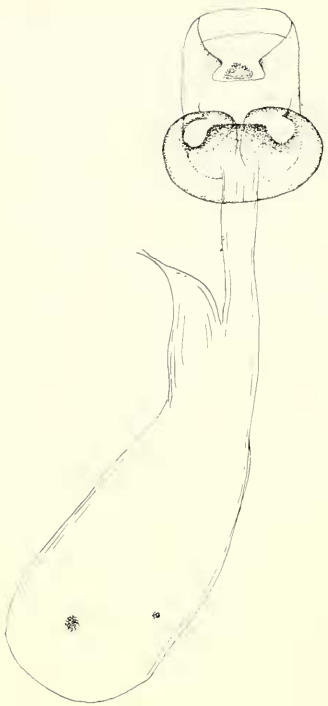

Fig. 4: *Euchromius sudanellus* Błeszyński, ♀-Genitalia from a paratype. Slide ZSM-♀ 1310. Sudan sept.-or., Port Sudan, Khor Arbaad, 23. VI. 1962.

anales coalescent, with long hair, 8. Tergite of *Chilo*-type, with very long apophyses. Ostium pouch linked to subgenital plate by a delicate membrane. Bursa copulatrix with a star-shaped signum. Genital opening at end of sternite.

Comments: The new genus is described for one species, *Leonardo davincii* n. sp. from Sudan. Because of the coalescent papillae anales, the armature of the 8. Tergite and its jointure to ostium pouch, the new genus comes near the *Chilo*-group of genera. However, the hindwing venation is peculiar because of the location of m 1, which departs from well below upper angle of cell as in the *Prionapteryx*-group. However, this feature occurs also in such genera as *Metaeuchromius* Błesz. or *Miyakea* Marumo. The valvae resemble somewhat those in American *Myelobia*-species. The presence of the saccus and the armature of the female genitalia are rather primitive characters. I would place the new genus next to the *Chilo*-group, however, this placement is to be considered only as provisional.

The new genus and new species are named in honour of Leonardo da Vinci.

Leonardo davincii n. sp.

Locus typicus: Sudan: Ed Damer: Hudeiba. Holotypus: ♂, „Sudan, Ed Damer, 25. VI. 1962, leg. R. Remane", Slide ZSM-♂ 1389, Coll. Zoologische Sammlung d. Bayerischen Staates, München.

Diagnosis: Antennae unicolorous white, in ♂ serrate, in ♀ setaceous. Labial palpi one and three-fourth as long as diameter of an eye, pale yellow, in basal portion whitened. Face white, patagia yellow, thorax white, collar white with yellow sides. Forewing ex-

pansion 18—21 mm, length of forewing 8.5—10 mm, maximal width 3.2—3.5 mm. Costa straight, apex rather acuminate, termen straight and distinctly oblique. Ground colour dull straw-yellow. Veins distinctly delineated with white. Some dark irrorations terminad from median line. Median line traceable, excurved below costa, dorsal 3/5 perpendicular to dorsal margin. Subterminal line distinct, yellow, bordered with steely-silvery exteriorly, excurved, nearly reaching termen in 1/3 from apex. Termen bordered with white, a delicate black streak below apex. Three terminal dots above dorsum. Some

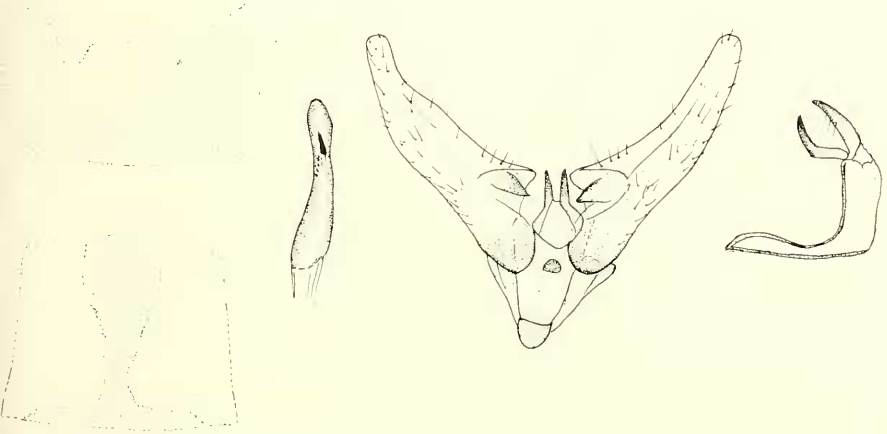

Fig. 5: *Leonardo davincii* n. sp. ♂-Genitalia from the holotype. Slide ZSM-♂ 1389. Sudan, Hudeiba, 25. VI. 1962.

steely-silvery longitudinal streaks between the subterminal and median lines. Fringes white, distinctly glossy above dorsum, with a delicate subbasal line, more distinct in apical portion. Hindwing semitransparent, glossy, silky-white with concolorous fringes. Other characters as for the genus.

♂-Genitalia (fig. 5): Uncus narrow, delicately curved, tapering to a point, hair poor. Gnathos curved, tapering to a point, slightly shorter than gnathos. Tegumen in ventral portion much narrower than in dorsal portion. Valva elongate with apex rounded, costal portion rather more heavily sclerotized than the remainder, basal 2/5 distinctly dilated, no processes. Aedoeagus small, much shorter than valva, in apical half narrowed. Vesica departs from end of aedoeagus. One moderate, tapering cornutus and several minute cornuti are present. Other characters as for genus.

♀-Genitalia (fig. 6): Papillae anales proportionately large, posterior apophyses decidedly shorter than anterior apophyses. 8. Tergite with a few setae. Ostium pouch heavily sclerotized, well demarcated from ductus bursae, cup-shaped, ductus bursae very short, slightly sclerotized. Bursa copulatrix twice as long as ostium pouch plus ductus bursae, subovate with one signum and spike-shaped scobinations. Other characters as for genus.

Comments: The new species ist described from 3 ♂♂ and 8 ♀♀ specimens, all taken in Sudan: Ed Damer: Hudeiba, 12. VI. — 5. VII.

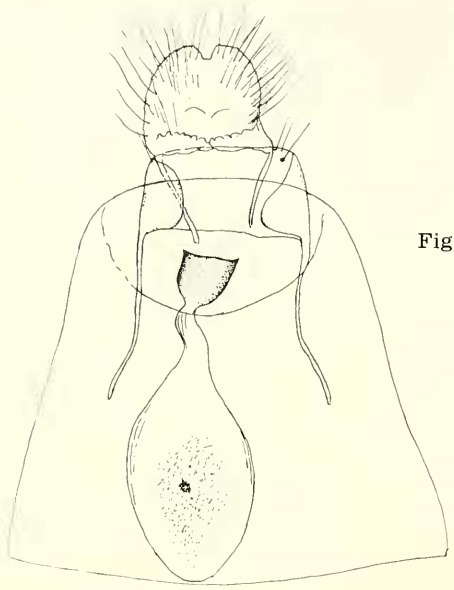

Fig. 6: *Leonardo davincii* n. sp. ♀-Genitalia from a paratype. Slide 4061-Bł. Sudan, Hudeiba, 27. VI. 1962.

1962, by R. Remane. The holotype, ♂, and 4♀♀ paratypes, slides ♂ 4058-Bł., ♀ 4061-Bł., in coll. of the Zoologische Sammlung d. Bayerischen Staates, München; 1 ♀ paratype in coll. of the British Museum (N. H.), London; 1 ♀ paratype in coll. of the United States National Museum, Washington, 1 ♂ and 2♀♀ paratypes in the author's collection.

Culladia achroella (Mabille)

34 ♂♀ specimens from Hudeiba, taken between 15. II. and 23. III. Genital slides nos. 4064-Bł. ♀ and 4065-Bł. ♂. The problem of this species is not quite clear. A considerable variation of the female genitalia is observed. Possibly there is more than one species, however, only a thorough revision of *Culladia* Moore might clarify the situation. The Hudeiba specimens are decidedly larger and lighter in coloration than Malgasian and South African ones.

Ancylolomia inornata (Staudinger)

12 ♂♀ specimens from Hudeiba, taken between 31. I. and 20. III. and between 3. VIII. and 9. VIII. Genital slides nos. 4060-Bł. ♂. The specimens are rather typical in both genitalia and external appearance.

Surattha soudanensis Hampson

40 ♂♀ specimens from Hudeiba, taken 22. VII. to 1. VIII. Genital slides nos. 4052-Bł. ♂ and 4053-Bł. ♀. The specimens are typical in genitalia of both sexes, differing in colour from specimens from Port Sudan and Afghanistan as being more yellow and having a more contrasted pattern of the forewing. The specimens show a considerable variation in the forewing colour and maculation.

Elethyia albirufalis (Hampson) **new comb.**

15 ♂♀ specimens from Hudeiba, taken between 23. VI. and 27. VII. This species has hitherto been known only from the unique male holotype from Port Sudan. The Hudeiba specimens are perfectly identical with the holotype. The study of the male genitalia has proved that this is a typical representative of the genus *Elethyia* Ragonot. Genital slides nos. 4056-Bł. ♂ and 4057-Bł. ♀.

Zovax vangoghi n. sp.

L o c u s t y p i c u s : Sudan: Ed Damer: Hudeiba. Holotypus ♂: „Sudan, Ed Damer, Hudeiba, 23. VII. 1962, leg. R. R e m a n e", slide Bł.-4062.

D i a g n o s i s : Ocelli fully developed. Chaetosemata strong. Labial palpi twice as long as diameter of an eye, beige. Face very strongly produced forward, conical with a distinct corneous point and very strong second point formed by the triangular ventral ridge of face, beige. Antennae whitish with brown rings, in ♂ serrate, in ♀ setaceous. Venation of wings: Forewing: r 1, r 2 and r 5 free; m 2 and cu 1 distinctly stalked. Hindwing: m 1 decidedly from below upper angle of cell. Cell closed, m 1 present, rather short. Forewing: expansion 18—22.5 mm, length 7.5—10 mm, maximal width 2.8—3.5 mm. Costa rather straight, apex decidedly rounded, termen rather bowed, rather oblique. Dull light brown with whitish and dark brown maculation. Discal speck distinct, dark brown. Subterminal line zigzag-shaped, white, bordered interiorly by some dark brown specks. Median line indistinct, also whitish, on either side bordered by some elongate, streak-shaped, dark brown specks; running at 2/5 from wing base. Terminal specks fully developed, proportionately large, dark brown, bordered interiorly with white. Fringes whitish with external half darkened. Hindwing dirty whitish with slightly darkened peripheries, glossy; fringes white, glossy.

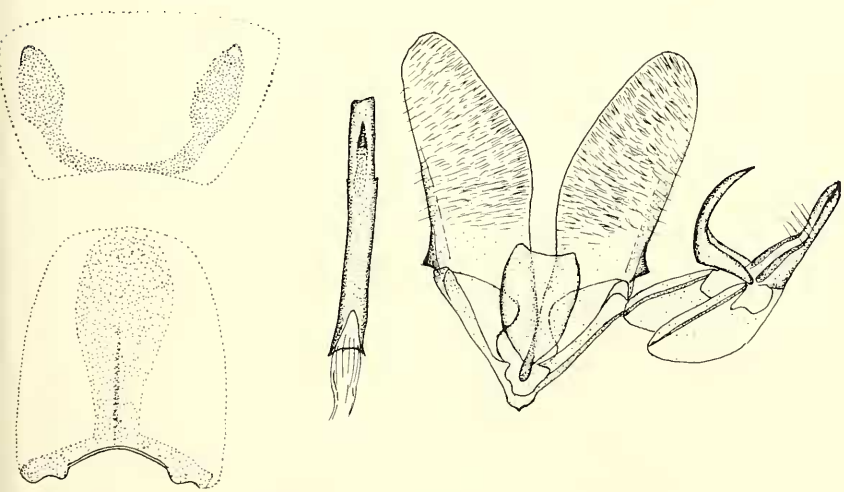

Fig. 7: *Zovax vangoghi* n. sp. ♂-Genitalia from a paratype. Slide ZSM-♂ 1387. Sudan, Hudeiba, 23. VII. 1962.

♂-Genitalia (fig. 7): Uncus and gnathos very large, uncus rather straight, somewhat flattened in apical half, basal half dilated. Gnathos angled at about 1/3 from base, then decidedly curved, tapering to a point. Appendices angulares rather broad, but not dilated ventrally. Valva elongate-ovate with dense, short hair. Costa with a rather small basal, triangular projection. Apex of vinculum with a small point. Juxta-plate much elongate with caudal margin slightly inbent. Aedoeagus slender, rather heavily sclerotized, shorter than valva. Vesica with a moderately sclerotized, rather long, tapering cornutus. 8. Tergite-plate with subovate, elongate arms, base narrow, 8. Sternite-plate with base moderate, cephalic margin thickened, with a distinct projection at either side; main part long, broadly rounded at apex, evenly tapering towards base.

♀-Genitalia (fig. 8): Papillae anales with margins rather straight, apophyses dilated near bases. 8. Tergite with cephalic margin thickened, apophyses slighthly longer than the posterior ones. Ostium pouch rather heavily sclerotized, well demarcated, very short, nearly rectangular, linked to subgenital plate by a delicate membrane. No ductus bursae. Bursa copulatrix ovate with no scobinations and no signum.

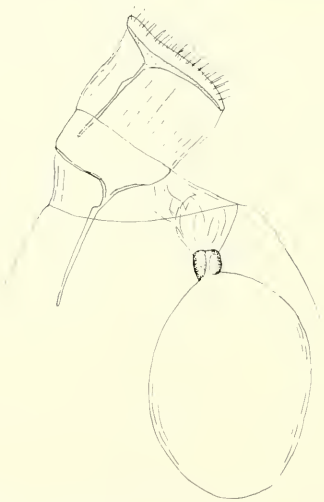

Fig. 8: *Zovax vangoghi* n. sp. ♀-Genitalia from a paratype. Slide ZSM-♀ 1388. Sudan, Hudeiba, 27. VII. 1962.

Comments: The new species is described from 28 ♂♂ and 1 ♀, all taken in Sudan: Ed Damer: Hudeiba, between 23. VII. and 9. VIII. 1962, by R. Remane. Slides of paratypes: ♂ — 1387-München, ♀ — 1388-München. The holotype, 20 ♂♂ paratypes and 1 ♀ paratype are in the coll. of the Zoologische Sammlung d. Bayerischen Staates in München; 2 ♂♂ paratypes are in the coll. of the British Museum (N. H.) in London; 2 ♂♂ paratypes are in the coll. of the United States National Museum in Washington and 3 ♂♂ paratypes are in the author's collection.

Zovax vangoghi n. sp. is the second known species of the genus *Zovax* Błesz. The type of the genus, *Z. whiteheadi* (Wollaston) is known only by the unique male holotype from St. Helena Island. It is much smaller than the new species, with pattern of the forewing as in the members of the genus *Prionapteryx* Stephens.

The new species is named in honour of the Dutch painter Vincent Van Gogh.

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